REMARKS

A Petition and Fee for Two Month Extension of Time is submitted herewith

An Excess Claim Fee Payment Letter is submitted herewith to cover the cost of any excess claims added by this Amendment.

Claims 1-24, all the claims presently pending in the application, stand rejected on prior art grounds. Claims 1-2, 5, 14, 17 and 23-24 have been amended to more clearly define the claimed invention. Claims 25-32 have been added to claim additional features of the claimed invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Applicant gratefully acknowledges the Examiner's helpful comments during a personal interview conducted between the Examiner, Examiner's Primary Examiner, and Applicant's undersigned representative no July 10, 2003. Applicant notes that at the interview the Examiner agreed that the claim amendments made herein would overcome the prior art "if Applicants can provide evidence that calendaring is different from heat welding". Applicant respectfully submits that such evidence is provided herein and, therefore, the present Application is in condition for immediate allowance.

Specifically, claims 1, 2, 6-13, 17 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent Application EP 0 811 479 A2 (hereinafter "EP '479) in view of the Internet publication "Tyvek® for Packaging - Products" (hereinafter "the Tyvek® publication"). Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '479 and the Tyvek® publication, and further in view of Scarmoutzos et al. (US Pat. No. 5,286,382) or Shen et al (US Pat. No. 5,446,118). Claims 5 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent Application EP 0 630 755 A2 (hereinafter "EP '755") or Japanese Published Patent Application JP 9-295406 (hereinafter "JP 406") in view of EP '479 and the Tyvek® publication.

Further, claims 4, 14, 15 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over EP '479 and the Tyvek® publication, further in view of Scarmoutzos and

Japanese Published Patent Application JP 7-171318 (hereinafter "JP 318"). Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '479 and the Tyvek® publication further in view of Scarmoutzos. Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '479 and the Tyvek® publication, further in view of Shen. Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '479 and the Tyvek® publication, further in view of Miksch (US Pat. No. 4,790,857). Claims 23-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '479 and the Tyvek® publication, further in view of EP '755.

These rejections are respectfully traversed in view of the following discussion.

I. THE CLAIMED INVENTION

The claimed invention is directed to an air-permeable filter for an ink cartridge. The invention includes a laminate which includes at least one porous material layer comprising at least one resin selected from the group consisting of fluororesin and polyolefin resin, at least one air-permeable substrate layer having a tensile strength of 1 MPa or more, and having an outer surface bonded to the at least one porous material layer, and one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer. Further, a Gurley number of the air-permeable filter is less than 100 sec/100 ml.

Conventional ink cartridges include filters that are made of porous polytetrafluoro-ethylene (PTFE). However, such filters commonly have an ink leakage problem.

The claimed filter, on the other hand, includes at least one air-permeable substrate layer, and one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer. With the novel features of the claimed filter, the difference in pressure between the interior and the exterior of the ink cartridge can be rapidly eliminated. Therefore, the claimed filter can minimize ink leakage.

II. THE PRIOR ART REFERENCES

A. The EP '479 and Tyvek® Publication References

The Examiner alleges that EP '479 and the Tyvek® publication would have been

combined to form the claimed invention. Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

EP '479 discloses a battery separator membrane which includes a microporous polyolefin membrane and a polyolefin nonwoven fabric laminated on at least one surface of the microporous polyolefin membrane. The composite membrane has a thickness of 25 to 200 μm, a porosity of 30 to 70%, an air permeability of 100 to 2000 sec/100cc and a surface opening area ratio of 50 to 90% on at least one outer surface thereof. The microporous polyolefin membrane includes a matrix polyolefin component which is a polyolefin having a weight average molecular weight of 5×10^5 or more or a polyolefin mixture containing the polyolefin having a weight average molecular weight of 5×10^5 or more, and has a porosity of 30 to 95%, an air permeability of 100 to 2000 sec/100cc, an average open pore diameter of 0.001 to 1 μm and a tensile strength at break of 500 kg/cm^2 or more. The polyolefin nonwoven fabric includes fine fibers and has an air permeability of 0.1 to 100 sec/100cc and a basis weight of 5 to 50 g/m^2. The polyolefin nonwoven fabric prevents the composite membrane from melting down at a low temperature thereby preventing the short-circuit between the electrodes (EP '479 at Abstract).

The Tyvek® publication discloses various Tyvek® packaging materials and their physical properties. Specifically, the Tyvek® publication discloses the tensile strength and thickness for Tyvek® packaging materials 1422A and 1422R (Tyvek® publication).

Applicant submits, however, that these references would not have been combined as alleged by the Examiner. Indeed, these references are directed to different matters. Specifically, EP '479 is directed to a battery separator membrane (EP '479 at Abstract) whereas the Tyvek® publication is merely directed to the physical properties of packaging materials. Clearly, no person of ordinary skill in the art would consider combining the features of EP '479 with Tyvek® publication, absent impermissible hindsight.

Further, Applicant submits that the Examiner can point to no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, the Examiner does not even attempt to support the combination by identifying any motivation or suggestion. Instead, the Examiner merely states that the Tyvek® publication is cited "only to provide the characteristics and properties of a material".

Moreover, the Examiner states that based on the Tyvek® publication, it is clear that the Tyvek® material described in EP '479 is either Tyvek® 1422A or 1422R. However, this absolutely not true. Indeed, we would point out that EP '479 describes a Tyvek® material which is 100 microns thick and has an air permeability of 100 sec/100cc. However, the Tyvek® 1422A and 1422R on which the Examiner relies is described in the Tyvek® publication as having thickness of 5.4 mils (i.e., 137 microns) and an air permeability of 19 sec/100 cc and 30 sec/100 cc, respectively. In other words, the material on which the Examiner relies (Tyvek® 1422A or 1422R) while being thicker than the Tyvek® described in EP '479, has a much higher permeability than the Tyvek® described in EP '479.

Therefore, since the thickness and permeability of the material would likely vary inversely, it is clear that the Tyvek® described in EP '479 cannot possibly be either Tyvek® 1422A or 1422R. Therefore, the Examiner's reliance on these materials in the Tyvek® publication is clearly misplaced.

Moreover, neither EP '479 nor the Tyvek® publication, nor any combination of these references, teaches or suggests an air-permeable filter including "*one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding said at least one air-permeable substrate layer to said at least one porous material layer*", as recited in claims 1, 5 and 17. As noted above, conventional ink cartridges include a polytetrafluoroethylene (PTFE) filter attached to an air vent to prevent ink from leaking through the vent (Application at page 2, lines 5-12). However, an increase or decrease in pressure in the ink cartridge may cause the filter to deform causing ink leakage (Application at page 4, lines 21-28).

The claimed filter, on the other hand, includes at least one air-permeable substrate layer, and one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer (Application at page 10, line 24-page 11, line 8). With the novel features of the claimed filter, the difference in pressure between the interior and the exterior of the ink cartridge can be rapidly eliminated. Therefore, the claimed filter can minimize ink leakage.

Clearly, neither EP '479 nor the Tyvek® publication teaches or suggests these novel features. Indeed, the Tyvek® publication merely discloses the physical properties of some particular materials (e.g., different types of Tyvek®). Therefore, the Tyvek® publication clearly does not teach or suggest an air-permeable filter, let alone an air-permeable filter

which includes a laminate having one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer.

Moreover, EP '479 merely discloses a microporous polyolefin membrane with a polyolefin non-woven fabric on one surface of the membrane (EP '479 at Abstract). However, EP '479 teaches that these layers are stacked and calendered at 50 to 140 °C under a high pressure of 5 to 30 kgf/cm^2 (EP'479 at page 6, lines 1-3). It is explained that this is very important because "[i]f the calendar roll pressure is less than 5kgf/cm^2, the bonding strength between the microporous polyolefin membrane and the polyolefin nonwoven fabric is insufficient" (EP '479 at page 6, lines 4-7). Therefore, EP '479 clearly teaches a membrane that requires an extreme amount or pressure for formation.

Thus, the membrane of EP '479 is completely different from the claimed filter which includes one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer. Indeed, EP '479 clearly teaches that such a method of bonding two layers together would be "insufficient". Therefore, it is clearly unreasonable to equate the battery separator membrane disclosed by EP '479 with the air-permeable filter for an ink cartridge of the claimed invention.

In short, it is clear that the "heat weld" of the claimed invention is not taught of suggested by the calendaring process in EP '479. Specifically, the present invention relates to an air-permeable filter for ink cartridge, which includes a laminate having at least one porous material layer and at least one air-permeable substrate layer. A "heat weld" can be employed as one means for laminating the porous material layer and the air-permeable substrate layer.

A "heat weld" is characterized in that the air-permeable substrate layer is molten and the porous material layer and the molten air-permeable substrate layer are bonded together, as described on page 11, lines 3 to 8 in the specification of the present application. In addition, the heat weld may include a hot-melt adhesive interposed between the at least one porous material layer and the at least one air-permeable substrate layer.

Thus, by employing a "heat weld", the porous material layer and the air-permeable substrate layer can be bonded together without applying any pressure thereto. This is important and advantageous to the claimed invention, because it avoids a change in the pore

diameter and the air permeability (Gurley number) of the porous material layer.

On the other hand, EP '479 describes the "calendaring" process on page 4, lines 36 to 41 thereof. This description exemplifies methods such as a tenter method, a roll method, an inflation method, a calendaring method or a combination thereof, as methods of stretching a gel sheet uniaxially or biaxially. Accordingly, this description is irrelevant to the "heat weld" of the present invention.

Specifically, EP '479 describes a lamination of a microporous polyolefin membrane and a polyolefin nonwoven fabric on page 5, lines 51 to page 6, line 8 thereof. First, the polyolefin nonwoven fabric is preheated (Separately, the microporous polyolefin membrane may be optionally preheated). After the preheating, the microporous polyolefin membrane and the polyolefin nonwaven fabric are stacked each other and calendered by passing the stack through a plurality of pairs of the calender rolls (under application of heat and under pressure) to be laminated. During the calendaring process, the temperature is set at form 50 to 140°C and the pressure is set at from 5 to 30 fkg/cm^2.

That is, in the EP '479 process, the microporous polyolefin membrane and the polyolefin nonwoven fabric are bonded together at a certain temperature and under certain pressure. Accordingly, it is very likely that the pore diameter of the microporous polyolefin membrane and the like may be change under the action of pressure.

Thus, when comparing the Present Invention and EP '479, it is clear that in the present invention, the air-permeable substrate layer may be molten and the molten air-permeable substrate layer and the porous material layer are bonded together. During the bonding, any pressure is not necessarily applied thereto. On the other hand, the calendaring process in EP '479 is carried out under application of heat and under extreme pressure. Accordingly, it is clear that the "heat weld" of the present invention and the calendaring process in EP '479 are very different processes.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

B. The Scarmoutzos and Shen references

The Examiner alleges that EP '479 and the Tyvek® publication would have been combined with Scarmoutzos to form the claimed invention of claim 20, or with Shen to form the claimed invention of claim 21, or with either Scarmoutzos or Shen to form the claimed invention of claim 3. Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Scarmoutzos discloses a hydrophobie polymeric membrane composite. Specifically, the membrane is formed from a porous polymeric substrate having its entire surface modified with a cross-linked polymer which results in a hydrophobic and oleophobic surface (Scartmoutzos at Abstract).

Shen discloses fluorinated acrylic monomers containing urethane groups and their polymers. Such polymers are allegedly useful to coat onto substrates to impart oil and water repellency (Shen at Abstract).

However, Applicant submits that these references would not have been combined as alleged by the Examiner. Indeed, these references are directed to different matters. Specifically, as noted above, EP '479 is directed to a battery separator membrane (EP '479 at Abstract), and the Tyvek® publication is merely directed to the physical properties of packaging materials, whereas Scarmoutzos is intended to provide a membrane which can be used as a seal for organic and aqueous liquids and as a gas filter (Scarmoutzos at col. 6, lines 15-17) and Shen is intended to provide a oil and water repellent coating. Clearly, no person of ordinary skill in art would consider combining the features of such divergent references, absent impermissible hindsight.

Further, Applicant submits that the Examiner can point to no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, the Examiner attempts to support the combination by stating that "it would have been obvious to one of ordinary skill in the art ... to incorporate the water-repellency and oil-repellency of Scarmoutzos et al. or Shen et al. into the air-permeable layers of the filter of European Patent Application EP 0811479 A2 and the internet publication "Tyvek ® for Packaging - Products" to prevent water and organic solvents from passing through the filter" which is merely conclusory and insufficient to support the combination, since the Examiner's stated

motivation to combine is completely unrelated to any objective (e.g., preventing an ink leakage) of the claimed invention.

Indeed, Applicant would point out to the Examiner that it is very unlikely that one of ordinary skill in the art would consider modifying a battery separator membrane (e.g., as in the EP '479 patent) to make it repellent to water and solvents, as suggested by the Examiner.

Moreover, like EP '479 and the Tyvek® publication, neither Scarmoutzos nor Shen, nor any combination thereof teaches or suggests an air-permeable filter including *"one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding said at least one air-permeable substrate layer to said at least one porous material layer"*, as recited in claims 1, 5 and 17.

As noted above, unlike conventional ink cartridges which include a polytetra-fluoroethylene (PTFE) filter attached to an air vent to prevent ink from leaking through the vent (Application at page 2, lines 5-12), the claimed filter includes at least one air-permeable substrate layer, and one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer (Application at page 10, line 24-page 11, line 8). The novel features of the claimed filter allow the filter to minimize ink leakage.

Clearly, neither Scarmoutzos nor Shen teaches or suggests these novel features. Indeed, the Examiner merely relies upon these references as allegedly disclosing an oil or water repellancy characteristic. Neither of these references are related to the novel filter of the claimed invention.

In fact, as noted above, Scarmoutzos merely discloses a membrane formed from a porous polymeric substrate having its entire surface modified with a cross-linked polymer which results in a hydrophobic and oleophobic surface (Scarmoutzos at Abstract). In other words, the membrane is not a laminate, but merely a coated polymer.

Similarly, Shen merely discloses fluorinated acrylic monomers containing urethane groups and their polymers (Shen at Abstract). Thus, like Scarmoutzos, Shen does not disclose a laminate.

In other words, neither of these references teaches or suggests an air-permeable filter or a laminate, let alone an air permeable filter having one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to

the at least one porous material layer, as in the claimed invention. Therefore, neither of these references makes up for the deficiencies in the EP '479 patent and the Tyvek® publication.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

C. The EP '755 and JP '406 References

The Examiner alleges that the either the EP '755 reference or the JP '406 reference would have been combined with the EP '479 patent and the Tyvek® publication to form the claimed invention (e.g., as claimed in claims 5 and 16). The Examiner further alleges that EP '479 patent and the Tyvek® publication would have been combined with EP '755 to form the claimed invention. Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

EP '755 discloses a breathable film 55c which is ultrasonic welded to a waste tank lid 55b. The film 55c includes a porous membrane 55f of tetrafluoroethylene resin, and a polypropylene net 55g (EP '755 at Figures 8 and 9A; column 19, line 23-col. 20, line 10).

JP '406 discloses in a hydrophobic film unit 100, the whole of the outer peripheral end part of a circular hydrophobic film 101 is covered with a resin member 102 formed by insert molding, the resin member 102 itself having an annular shape with a square cross section. An ultrasonic fusion rib 103 is provided to one surface of the annular part of the resin member 102 in a circular shape and this hydrophobic film unit 100 is fixed to the atmosphere communication hole part of an ink tank by welding the resin member 102 (especially the part of the rib 103) and a resin constituting at least peripheral part of the atmosphere communication port of the ink tank. Alternatively, in the hydrophobic film unit 100, the whole of the outer peripheral end part of the circular hydrophobic film 101 is covered with an annular elastic member having an oval cross section formed by insert molding (JP '406 at Abstract).

However, Applicant submits that these references would not have been combined as alleged by the Examiner. Indeed, these references are directed to totally different matters.

Specifically, EP '755 is directed to a discharge recovery process for an ink jet recording apparatus, and JP '406 is directed to a hydrophobic film unit, whereas EP '479 is directed to a battery separator membrane (EP '479 at Abstract), and the Tyvek® publication is merely directed to the physical properties of packaging materials. Clearly, no person of ordinary skill in the art would have considered combining the features of EP '755 or JP '406 with EP '479 and the Tyvek® publication, absent impermissible hindsight.

Further, Applicant submits that the Examiner can point to no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, the Examiner supports the combination by merely stating that "[i]t would have been obvious ... to incorporate the air-permeable filters of EP 0 811 479 A2 and the internet publication " Tyvek® for Packaging - Products" into the ink cartridges of EP 0 630 755 A2 or JP 9-295406 to provide vent filters for the ink cartridges having good mechanical rigidity to prevent the filters from being damaged in transit to prevent ink from being lost from the cartridge" which is insufficient to support the combination, since the Examiner's stated motivation to combine is completely unrelated to any objective of the claimed invention (e.g., preventing an ink leakage).

Moreover, like EP '479 and the Tyvek® publication, neither the EP '755 reference nor the JP '406 teaches, nor any combination thereof suggests an air-permeable filter including *"one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding said at least one air-permeable substrate layer to said at least one porous material layer"*, as recited in claims 1, 5 and 17.

As noted above, unlike conventional ink cartridges which typically have ink leakage problems, the claimed invention includes an air-permeable substrate, and one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer (Application at page 10, line 24-page 11, line 8).

Clearly, neither EP '755 nor JP '406 teaches or suggests these novel features. Indeed, as noted above, EP '755 merely discloses a breathable film 55c which includes a porous membrane 55f of tetrafluoroethylene resin, and a polypropylene net 55g. EP '755 teaches that the film is ultrasonic welded to a waste tank lid 55b, however, nowhere does EP '755 teach or suggest one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the

porous membrane 55f to the net 55g. Therefore, EP '755 clearly does not make up for the deficiencies of the EP '479 patent and the Tyvek® publication.

Further, even if JP '406 is intended to prevent ink leakage in an ink jet printing cartridge, JP '406 is clearly unrelated to the air permeable filter of the claimed invention. Indeed to accomplish its objectives, JP '406 teaches covering a outer peripheral end part of a circular hydrophobic film 101 with a resin member 102 having an annular shape. In other words, JP '406 fails to teach or suggest an air permeable filter which includes a laminate (e.g., at least one porous material layer and at least one air-permeable substrate).

Clearly, since JP '406 does not even disclose a laminate, JP '406 clearly cannot teach or suggest a filter which includes one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer, as in the claimed invention. Therefore, JP '406 clearly does not make up for the deficiencies in the EP '479 patent and the Tyvek® publication.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

D. The JP '318 Reference

The Examiner alleges that EP '479, the Tyvek® publication and Scarmoutzos would have been combined with JP '318 to form the claimed invention (e.g., as claimed in claims 4, 14, 15 and 18). Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

JP '318 merely discloses premixed fine particles composed of at least one kind of polymer selected from polytetrafluoroethylene, a tetrafluoroethylene/hexafluoropropylene copolymer and polyvinylidene fluoride are bonded to the voids on the surface side of a permeable porous substrate obtained by sintering and molding graphy ultrahigh mol.wt. polyethylene (JP '318 at Abstract).

However, Applicant submits that these references would not have been combined as alleged by the Examiner. Indeed, these references are directed to different matters.

Specifically, as noted above, EP '479 is directed to a battery separator membrane (EP '479 at Abstract), the Tyvek® publication is directed to the physical properties of packaging materials, and Scarmoutzos is intended to provide a membrane which can be used as a seal for organic and aqueous liquids and as a gas filter (Scarmoutzos at col. 6, lines 15-17), whereas JP '318 is merely directed to a sintered plastic filter. Clearly, no person of ordinary skill in art would consider combining the features of such divergent references, absent impermissible hindsight.

Further, Applicant submits that the Examiner can point to no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, the Examiner attempts to support the combination by stating that "it would have been obvious ... to substitute the porous polytetrafluoroethylene material of Scarmoutzos et al. for the porous polyethylene material of EP 0811 479 A2 in that such are alternate materials in the art for forming porous material layers" which is insufficient to support the combination, since the Examiner's stated motivation to combine is completely unrelated to any objective of the claimed invention (e.g., preventing an ink leakage). .

Moreover, Applicant submits that JP '318 clearly does not teach or suggest an air-permeable filter including *"one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding said at least one air-permeable substrate layer to said at least one porous material layer"*, as recited in claims 1, 5 and 17.

Clearly, JP '318 does not teach or suggest these novel features. Indeed, JP '318 merely discloses a sintered polyethylene substrate and fine particles bonded to the voids of the substrate. In other words, JP '318 fails to disclose an air-permeable filter having a porous material layer, let alone an air permeable filter including one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer. Therefore, JP '318 clearly does not make up for the deficiencies in the EP '479 patent, the Tyvek® publication, and the Scarmoutzos patent.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

E. The Miksch Reference

The Examiner alleges that EP '479 and the Tyvek® publication would have been combined with Miksch to form the claimed invention (e.g., as claimed in claim 22). Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Miksch discloses a gaseous contaminant dosimeter for collecting a gaseous contaminant. The dosimeter includes a porous diffusive material through which a contaminant may diffuse. The porous diffusive material includes at least two layers of membrane material mounted to the opposite sides of a porous support substrate (Miksch at Abstract).

However, Applicant submits that these references would not have been combined as alleged by the Examiner. Indeed, these references are directed to different matters. Specifically, as noted above, EP '479 is directed to a battery separator membrane (EP '479 at Abstract), and the Tyvek® publication is merely directed to the physical properties of packaging materials, whereas Miksch is directed to a gaseous contaminant dosimeter. Clearly, no person of ordinary skill in art would consider combining the features of such divergent references, absent impermissible hindsight.

Further, the Examiner can point to no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, the Examiner attempts to support the combination by stating that it would have been obvious to "incorporate the two porous material layers of Miksch into the filter of European Patent Application EP0 811 479 A2 and the internet publication "Tyvek ® for Packaging - Products" to provide a filter having improved filtration efficiency and to provide a symmetrical filter that can be installed in either direction to prevent the users of the filters from inadvertently installing the filter in an improper direction" which is insufficient to support the combination, since the Examiner's stated motivation to combine is completely unrelated to any objective of the claimed invention (e.g., preventing an ink leakage).

Moreover, Applicant submits that Miksch clearly does not teach or suggest an air-permeable filter including *"one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding said at least one air-permeable substrate layer to said at least one*

porous material layer", as recited in claims 1, 5 and 17.

Clearly, the Miksch reference does not teach or suggest these novel features. Indeed, as noted above, Miksch merely discloses a gaseous contaminant dosimeter having a porous diffusive material with at least two layers of membrane material mounted to the opposite sides of a porous support substrate (Miksch at Abstract). In other words, the Miksch dosimeter is completely unrelated to the air permeable filter (e.g., for an ink cartridge) of the claimed invention.

Further, the Examiner attempts to equate the membranes 37 of Miksch with the porous material of the claimed invention, and the core layer 11 of Miksch with the air permeable substrate of the claimed invention (Miksch at Figure 1). However, nowhere does Miksch disclose or suggest the novel features of the claimed invention (e.g., an air-permeable substrate layer having a tensile strength of 1MPa or more). Moreover, Miksch clearly does not disclose an air permeable filter having one of a heat weld, ultrasonic weld, vibrational weld, and adhesive for bonding the at least one air-permeable substrate layer to the at least one porous material layer, as in the claimed invention. Therefore, Miksch does not make up for the deficiencies in the EP '479 patent and the Tyvek® publication.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

IV. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-34, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 9/15/03

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